



MARINE UREA SOLUTION

Marine Urea Solution (AUS40%) is used for the purpose of reducing Nitrogen Oxides Deposits (NOx) from the Exhaust system so vessel will provide less emissions for a cleaner environment as per IMO guide lines.

SHELF LIFE OF THE MARINE UREA SOLUTION

The shelf life of 40% Marine Urea solution is as per below chart, if stored at between 0-25 Degrees Celsius or 32 to 77 Degrees Fahrenheit.

Below is only an estimated shelf life of 40% Marine Urea Solution based on average storage temperature.

AVERAGE STORAGE TEMPERATURE(c)	AVERAGE STORAGE TEMPERATURE(F)	SHELF LIFE AT LEAST
0-25	32-77	18 months
Less than 30	Less than 86	12 months
Less than 35	Less than 95	6 months
More than 35 *	More than 95	Best to check every batch before use.

*P.S Marine Urea Solution is unstable at such high temperatures.

MARINE UREA SOLUTION TO CONTROL NOx EMISSION:

Nitrogen Oxides (NOx) emissions either from the marine Industry or from vehicles' exhausts causes lung cancer plus enviro damages so it is very important the reduction of emissions.

MARINE UREA SOLUTION REDUCE YOUR MARINE ENGINES NO_x EMISSIONS.

The 40% Marine Urea Solution enters the flue gas stream. The hot exhaust breaks the marine urea solution into various components of which, ammonia is the active component that reacts with the nitrogen oxides (NO_x) to form harmless nitrogen and water molecules.

UREA SOLUTION 40% -FREEZING POINT.

The freezing temperature of the 40% Marine Urea Solution is around 0 degrees Celsius. This may become a problem when the vessel is always sailing in regions with sub-zero temperatures.

But not to worry, vessel designers would have thought about it.

They would have designed the vessel to reduce the chances of the 40% Marine Urea Solution freezing by using the onboard storage tank.

The 40% Marine Urea Solution is chosen because it's non-hazardous (this depends on the country jurisdiction) and relatively safer to handle than other alternatives. 40% Marine Urea Solution is chosen by most marine Selective Catalytic Reduction (SCR) system makers because it's the most efficient. For the same volume of urea solution, 40% will be able to treat more exhaust compared to 30%. This means that the same volume will last you longer.

Ammonia solution is the alternative. It's highly corrosive and very dangerous to handle. In most countries, special licenses and permits are required to transport, supply and handle ammonia.

That's the reason why Marine Urea Solution (AUS40) is still the preferred and safer choice to control NO_x emission.

Selective Catalytic Reduction (SCR) system to control the marine vessel emission

Legally speaking, you are obliged to use SCR system unless your vessel fulfills the conditions set by IMO - MARPOL. See MARPOL Regulations.

IMPORTANT:

In a marine Selective Catalytic Reduction (SCR) system, one of the very expensive components is the catalyst. When bad quality Marine Urea Solution (AUS40) is introduced to the SCR System, the impurities will clog up the SCR catalyst and render it less effective and eventually (and rapidly) useless.

The Following may happen:

- The Marine SCR catalyst will need to be changed before it's due
- The clogged Marine SCR catalyst may cause problems to other system components.
- At the next port call, the vessel would fail the NOx emission test and subject to penalties or delays (depending on the marine/port authorities)

CONCLUSION

Considering all the above, the safer and cheaper way to control NOx emission is the reliable 40% Marine Urea Solution.

Unimarine group always guarantees the proper quality of the 40% Marine Urea Solution by taking into consideration all the above factors and by supervising the production of Urea in our world wide approved blending facilities .

For any questions pls use our web site;

www.unimarine-services.com or call us at our nearest technical / sales office .